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I. Food Laws

Overview

The sale and import of food products in Singapore are governed by the Sale of Food Act (Chapter 283) and the Food Regulations. All food, drinks and edible agricultural products, including food ingredients, whether locally manufactured and imported to Singapore, are required to comply with the food standards and labelling requirements stipulated in the Food Regulations.

The Food Regulations have been developed locally and are continually monitored to take into account new product developments, new ingredients, new production techniques, new technology and other matters of importance, e.g. relevant disease outbreaks or food contamination incidents in actual or potential supplier nations. They are not based on any particular country's regulations but adopt and modify laws and standards that are applied internationally to suit Singapore's local conditions and requirements. Reference is made to CODEX and the laws and standards of developed countries and regions, including the USA and European Union. The broad goals of the food laws, policies, procedures and enforcement practices are to facilitate the supply of safe and wholesome foodstuffs to Singapore.

Singapore's Food Regulations are amongst the most up-to-date in Southeast Asia. This arises because of a continuous program of monitorship and updating undertaken by a number of different government departments and agencies. Discussions in September 2000 indicate that a new set of food regulations is likely to be issued in the next two years. These regulations will bring together the main legislation issued in 1988, all subsidiary legislations promulgated since that date and new provisions on matters that have been under review over the past 3 to 5 years.

Although not confirmed at the date of writing, the new provisions are likely to cover some aspects of ASEAN food law harmonisation, functional foods, health claims relating to specific conditions and diseases, genetically modified foods and other biotechnology developments that affect foodstuffs. It is, however, highly likely that mandatory nutritional labelling will be introduced at some stage in the next 2 years. This is likely to take the form of nutritional contents per serving size and 100 grams rather than use declarations based on recommended daily allowances (RDA).

Singapore's food laws are strictly enforced from the food health and safety point of view. As such, they do not form any trade barrier to products that are safe and wholesome.

Licences are required to be obtained by importers of meat and meat products, fish and fish products, fresh fruits and fresh vegetables to Singapore. Additionally, processed food and drinks are required to be registered with the authorities by importers prior to importation. Special import licences are required for certain items, e.g. irradiated foods and certain artificial sweetening agents. These are required as part of efforts to control food health and safety as well as enforce the food regulations rather than as a barrier to trade with Singapore. A range of other foods, including genetically modified foods, are listed for special declaration to, and attention by the authorities, e.g. inspection, sampling and licensing.

The government departments and agencies that are involved in developing, promulgating and enforcing the Food Regulations include:

- Food Control Department of the Ministry of Environment. This department is responsible for enforcing the laws relating to processed food and drinks except canned meat and fish products (see AVA below).
- Agri-Food and Veterinary Authority (“AVA”). This statutory body is responsible for enforcing the laws relating to meat and meat products, fish and fish products and fresh fruits and vegetables.
- Department of Nutrition, Ministry of Health. This department is actively involved in the development of laws and policies relating to food and drinks of all types.
- Trade Development Board (TDB). The TDB is the agency that operates the TradeNet system which integrates the import, export and transshipment documentation processing to expedite clearance of all types of cargo entering or leaving Singapore.

A Food Advisory Committee also exists which comprises experts from a range of different fields. This committee is referred to when the main controlling authorities, i.e. the Food Control Department, has a case where broader consideration is required, e.g. the review and approval of new food ingredients before they can be imported into Singapore.

If any food, drink or ingredient falls outside the scope of the current food regulations, it is necessary to seek permission for import from the relevant authority before approval can be obtained from the Trade Development Board for its import into Singapore.

It should be noted that:

- Singapore prohibits the commercial import and sale of chewing gum.
- High excise duties are levied by the Customs & Excise Department on the CIF import value of alcoholic drinks in an attempt to moderate the consumption of such products. Currently, local beer and stout have a slight advantage because higher duties are levied on competing products which are imported from outside Singapore.
- There is a 3% goods and service tax (“GST”) which is levied on CIF value of all food, drinks and edible agricultural products destined for the Singapore market. This has to be paid before goods are allowed into Singapore’s customs territory. Special provisions in the GST law exist for products that are to be re-exported from Singapore.

Standards and Particular Labelling Requirements for Food

Singapore's Food Regulations are increasingly comprehensive in their coverage. Part IV titled "Standards and Particular Labelling Requirements for Food", inclusive of its amendments, provides specific product definitions, ingredient content standards and labelling requirements for a wide range of products that fall under the following product categories:

- Flour, bakery and cereal products.
- Aerating ingredients.
- Meat and meat products.
- Fish and fish products.
- Edible fats and oils.
- Milk and milk products.
- Ice cream, frozen confections and related products.
- Sauce, vinegar and relishes.
- Sugar and sugar products.
- Tea, coffee and cocoa.
- Fruit juices and fruit cordials.
- Jams.
- Non-alcoholic drinks.
- Alcoholic drinks.
- Salts.
- Spices and condiments.
- Flavouring essences and extracts.
- Flavour enhancers.
- Special purpose foods.
- Miscellaneous foods.
- Rice.

Special purpose foods include products that are consumed by persons with a special diet. The category includes products such as infant foods and diabetic foods. Miscellaneous foods include products such as agar-agar, custard powder, edible gelatin and fish and prawn crackers.

As Part IV of the Food Regulations is too comprehensive and detailed to provide meaningful summarisation in this report, it is advised that the reader consult the relevant section of the regulations for information that is required about their own specific product or products. As the regulations are regularly reviewed and updated it is recommended that this be done in consultation with a knowledgeable importer based in Singapore.

II Labelling Requirements

A. General requirements relating to prepacked food and drinks

Singapore's food regulations require that all prepacked food products, including drinks, sold in the Singapore market be properly labelled. The law requires that the following basic labelling information be provided in English:

- Name or description of the product.
- List of ingredients.
- Net quantity.

- Name and address of manufacturer or importer.
- Country of origin of the product.
- Additional information as required by the Food Regulations.
- Expiry date marking for a specific range of food products.

The Food Regulations contain general and specific restrictions over health claims. At the time of writing, i.e. late September 2000, nutritional labelling is only required when a nutrition claim is made. (See next section for more information).

Some key points to note on labelling are as follows:

- Name or description of the product:

The common name of the food or drink or a description which is sufficient to indicate the true nature of the product should be used.

If trademarks, brandnames or any of name not specific to the actual nature of the product appear on the label, they can only be used in conjunction with the proper common name or description of the product.

- List of ingredients:

A complete list of ingredients should be disclosed on each product's label.

If respective quantities are not disclosed they should be listed in descending order of their proportion by weight, i.e. the ingredient listed at the top will be the one that weighed the most.

If Tartrazine is included in the product, it must be stated in the list of ingredients as "Tartrazine" or Colour (102) or Colour (FD&C Yellow #5) or similar wording.

- Net quantity:

The label of all products, except intoxicating liquors and soft drinks, should include an indication of the quantity of the contents.

The minimum quantity of the food in the package should be printed on the label, expressed in terms of volumetric measures, (ml, litres) or net weight (g or kg) or any other measure.

In the case of a weight measure, suitable words such as "Net" shall be used to describe the manner of measurement.

- Wording size for label:

The wording providing consumers with information on product name/description, ingredients, quantity and the disclosure on tartrazine should be printed in letters of not less than 1.5 millimetres in height.

- Name and address of manufacturer or importer

Singapore importers are required to include their own contact information, e.g. name, street address and phone number, on the package/label for reference by the Singapore authorities and consumers. This can be complied with through the use of stick-on labels. In some cases, the importer's details are printed on the label used by the foreign manufacturer or exporter.

Locally manufactured food and drinks are also required to comply with this regulation by including their own contact details on the label.

Telegraphic, facsimile and post office addresses are not acceptable under the food regulations.

- Country of origin of the product

The labels of imported foods must contain the name of the country of origin.

The names of cities, towns or provinces are unacceptable as indications of country of origin under this regulation.

- In addition to the requirement that a complete list of ingredients should be disclosed on each product's label, the following additional information is currently also required by the Food Regulations:

The label of any product containing the following generic additive products shall adequately make disclosure of content in the specific manner prescribed by the relevant regulations:

! Artificial sweetening agents (Refer to Regulation 18 of the Food Regulations).

The label of any food, drink or artificial sweetening agent containing aspartame is required to include the following words or words to the same effect:

“PHENYLKETONURICS: CONTAINS PHENYLALANINE.”

The label on a package of Royal Jelly or product containing Royal Jelly should include the following words or words to the same effect:

“WARNING - THIS PRODUCT MAY NOT BE SUITABLE FOR ASTHMA AND ALLERGY SUFFERERS”.

The label of foods which have been irradiated, including those which include irradiated ingredients are required to be clearly disclose that they are irradiated or contain irradiated ingredients. The labels of such products should include the following words in letters not less than 3 millimetres in height:

“TREATED WITH IONIZING IRRADIATION” or
“IRRADIATED (*insert name of food here*)”

It should be noted that from time to time, new regulations may be introduced which

expand on this section of the Food Regulations.

- Expiry date marking for a specific range of food products

The labels of certain products are required to disclose expiry dates in a prescribed form. More details on this are provided in a following section of this report titled “Other Regulations and Requirements - Expiry Date Marking”.

- Declarations about nutritional content and content of vitamins and minerals.

Extensive regulations also exist with regard to declarations that are to be made on the labels of products where claims are made about nutritional content and vitamins and minerals. These are overviewed in the following sections of this report titled:

- ! Requirements Specific to Nutritional Labelling.
- ! Health Claims and Claims About Vitamins and Minerals

- The word “pure” or any word of similar significance cannot be used on any food or drink label unless the product is free from other added substances or is of a composition, strength and quality required under the Food Regulations.
- If a recipe or pictorial serving suggestion is provided on any label, the label should clearly include the word “Recipe” or phrase “Serving Suggestion” close proximity to the relevant recipe or picture. These words are to be printed in letters not less than 1.5 millimetres in height.
- Prepacked foods which form part of a package or container, e.g. a hamper, are required to be labelled in a manner prescribed by the Food Regulations.

The labelling laws are enforced by the Food Control Department. The laws also cover certain aspects of advertising of processed food and drinks in Singapore, in particular claims that are made about individual products. Product labels are required to comply with Singapore’s Food Regulations before they are imported into Singapore customs territory. The labelling requirements cover all forms of prepacked products, including those which are supplied to food service establishments, except for some products which are officially exempt, e.g. foods that are retailed in a loose format.

Currently, many U.S. products can enter with the standard U.S. label although this depends upon whether labels on individual products comply with the regulations covering specific additives, expiry dates and claims about products (see following section of this report). For this reason, there may be incidences where specific differences in U.S. and Singapore law require a labelling change or additional declaration to be made on a standard U.S. label. U.S. exporters are advised to liaise with their importers and/or the Food Control Department to confirm and clarify their specific requirements.

B. General requirements relating to raw produce and dressed birds

The Food Regulations also include labelling laws for raw produce and dressed birds. Raw produce is defined as meat, minced or chopped meat, organs, fish, crustaceans and shellfish in a raw, i.e. fresh, form. These regulations require that:

- Packages of raw produce be labelled to disclose the date of packing.
- Packages containing dressed birds, e.g. chicken, ducks, etc., be labelled to disclose the date of slaughter.

These regulations are enforced by the Agri-Food and Veterinary Authority.

III Requirements Specific to Nutritional Labelling

Currently, nutrition labelling is only required when a nutrition claim, whether general or specific, is made about a product, e.g. when a product claims to be a “source of energy”, “source of protein”, “low in calories” or “sugar free”.

The Food Regulations require that when nutrition claims are made the product’s label must include a nutrition information panel specified in the regulations (see below) or in other similar form that is acceptable to the Food Control Department.

Nutrition Information Panel (Specified Form)		
NUTRITION INFORMATION		
Servings per package (<i>here insert the number of servings per package</i>)*		
Serving size (<i>here insert the serving size</i>)*		
	Per Serving* or	Per 100 g (100 ml)
Energy	kcal, kJ or both	kcal, kJ or both
Protein	g	g
Fat	g	g
Carbohydrate	g	g
<i>(here insert the nutrients for which nutrition claims are made or any other nutrients to be declared)**</i>	g	g
Notes: *: Applicable only if the nutrients are declared on a per serving basis. ** Amounts of sodium, potassium and cholesterol are to be declared in mg. Source: Food Regulations (Thirteenth Schedule)		

The regulations relating to disclosure about nutrition claims are complex and require consideration on a case by case basis. U.S. exporters are therefore advised to consult their importers and/or the Food Control Department about the contents of their nutrition information panels and compliance with Singapore’s Food Regulations.

It should be noted that the Government is expected to introduce mandatory nutritional labelling laws over the next 2 years. In view of this, U.S. exporters will need to monitor the situation together with their importers to ensure that their labels will comply with any future laws on nutritional labelling.

The nutrition labels currently used by Singapore manufacturers, e.g. the major bakeries, may provide some indications of the future nutritional labelling requirements. The major bakeries now utilise nutrition information panels which disclose nutritional content for a serving size and 100 grams of the product. The panel defines a serving size and provides contents data for energy, protein, fat, cholesterol, carbohydrate, dietary fibre, sodium content and various vitamins and minerals. It is understood that future labels are unlikely to require disclosure of RDA's (recommended daily allowances).

D. Health claims and claims about vitamins and minerals

Health claims

The Food Regulations prohibit food product labels from disclosing the following types of claims:

- Claims that a food has therapeutic or prophylactic properties, unless permitted by the authorities.
- Claims that a food will prevent, alleviate or cure any disease or condition affecting the human body. For example, the Food Control Department comment that the phrases "effective in preventing or curing cancer" or "this product lowers the blood pressure" are objectionable claims.
- Claims that a food can improve physical condition or performance. For example, the Food Control Department comment that the phrase "a runner can run faster after consuming the food" is objectionable.

Labels cannot include any words, claims (whether explicit or implicit), designs or devices that could be interpreted as advice of a medical nature.

Enforcement of the regulations relating to health claims on food and drink labels are currently made with reference to the Medicine (Advertisement & Sale) Act which bans the packaging and leaflet inserts of imported pharmaceuticals from including claims or implications covering a range of diseases and conditions (See Appendix C to this report). Discussions with government officials indicate that a list similar to that found in this Act is likely to be included in the Food Regulations at some stage over the next 2 years.

Claims on vitamins and minerals

The Food Regulations contain extensive regulations covering disclosures that are required to be made on the labels of products that claim to contain vitamins and/or minerals or that claim to be rich in vitamins and/or minerals. For this reason, it is important that U.S. exporters and their Singapore importers review the imported products' compliance with these regulations on

a case by case basis.

The Food Regulations include official definitions about vitamin and mineral content in the form of:

- Table I which provides an official list of specific vitamins and minerals, a daily allowance for each and the basis measurement for each daily allowance figure (see Appendix D to this report).
- Table II which provides an official list of food and drinks and reference quantities for the purposes of the statements about vitamin and mineral content (see Appendix E to this report).

In broad terms, the labels of food and drinks that claim to contain or that are claimed to be rich in vitamins and/or minerals are required to include statements to substantiate the claims. Some key points to note are:

- No claim on the presence of vitamins or minerals can be made on the label of any food or drink product unless the manufacturer or supplier can substantiate that the reference quantity of the products set out in Table II of the Food Regulations (see Appendix E to this report) contains at least one-sixth of the daily allowance for specific vitamins or minerals as laid down in Table I of the Food Regulations (see Appendix D to this report).
- The wording of these statements is required to make reference to the information in the Table I and Table II to the Food Regulations as well as other regulations regarding special situations regarding vitamin and mineral content.
- The Food Control Department comment that the minimum labelling requirement for a food or drink which complies with the Food Regulations on content is a statement similar to “ 200 ml of this orange juice contains 15 mg of Vitamin C”. Compliance with vitamin and mineral labelling regulations can also be effected through the use of a nutrition panel designed to comply with these regulations.

IV Packaging and Container Requirements

All containers used to pack food and drinks that are capable of being labelled should include a label that complies with the provisions of the Food Regulations.

The Food Regulations include a provision that bans the use of any appliance, container or vessel that is intended for use in storage, preparation or cooking of food if it contains or is capable of imparting lead, antimony, arsenic, cadmium or other toxic substance, including vinyl chloride and products known to be carcinogenic, mutagenic, teratogenic, poisonous or injurious, to any food stored, prepared or cooked in it.

The use of any lead piping for the conveyance of beer, cider or other beverages or liquid food is prohibited.

V Food Additive Regulations

Foods that contain additives that are not permitted by the Food Regulations cannot be sold in Singapore. Trade in food additives, i.e. the import, sale and manufacture of such products, is only allowed if the additives conform with the provisions of the Food Regulations. If the Food Regulations do not contain reference to a particular additive, the authorities will make reference to the specifications recommended by the Joint Food and Agriculture Organisation of the United Nations (FAO) and World Health Organisation (WHO) Expert Committee on food additives.

The Food Regulations contain comprehensive regulations relating to food additives and their use in food and drinks manufactured, imported and sold in Singapore. These regulations cover:

- Anti-caking agents, anti-oxidants, artificial sweetening agents (covered elsewhere in this report), chemical preservatives, colouring matter, emulsifiers, stabilisers, flavouring agents, flavour enhancers, humectants, nutrient supplements, sequestrants;
- General purpose additives.
- Gaseous packaging agents.

The regulations provide:

- Official definitions of additives.
- Details of additives that are permitted for use in Singapore, including their permitted uses/proportions of use.
- Specific labelling requirements.

The regulations on food additives are to be read and interpreted with reference to the following detailed schedules to the Food Regulations:

- Fourth Schedule, which covers permitted anti-oxidants, their use and the amounts that are permitted in specific foods, including processed foods, unprocessed foods and some food ingredients. Currently, this covers the use of 8 different antioxidants in a range of foods.
- Fifth Schedule, which covers a range of specific permitted chemical preservatives, their use and the amounts that are permitted in specific foods, including processed foods, unprocessed foods and some food ingredients. Chemical preservatives are divided into 2 classes:
 - ! Class I chemical preservatives such as common salt, sugars, vinegars and acids and ethyl alcohol and potable spirits.
 - ! Class II chemical preservatives are other preservatives which are dealt with in the Fifth Schedule. Currently, this covers the use of 7 different preservatives in 55 different types of food and drinks.
- Sixth Schedule, which defines permitted synthetic and other food colours. Currently, this covers 17 different food colouring products.

- Seventh Schedule, which defines permitted emulsifiers and stabilisers. Currently, this (as amended) covers 30 different categories of emulsifiers and stabilisers comprising well over 60 individual products.
- Eight Schedule, which defines permitted nutrient supplements. Currently, this covers 55 different nutrient supplements.
- Ninth Schedule, which defines permitted general purpose additives. Currently, this covers 85 different general purpose additives.

A number of additives are dealt with separately from those in the above referred Schedules:

- Anti-caking agents: Foods may contain the following anti-caking agents at concentrations of not more than 2% on a dry basis:
 - ! Calcium or magnesium carbonate.
 - ! Calcium hydroxyphosphate.
 - ! Edible bone phosphate.
 - ! Magnesium stearate.
 - ! Magnesium trisilicate.
 - ! Calcium, sodium aluminium, sodium calcium aluminium or calcium aluminium silicates; or
 - ! Silicon dioxide.
- Anti-foaming agents. These are banned in any food or drink product, except in edible oils which may contain the anti-foaming agent known as Dimethyl Polysiloxane in an amount not exceeding 10 ppm (parts per million).
- Flavouring agents:
 - ! Only natural and synthetic flavouring agents which are contained in permitted solvents namely diethyl ether, ethyl acetate, ethyl alcohol, glycerol, isopropyl alcohol, propylene glycol, tricetin and water. The solvents other than water are required to comply with the British Pharmacopoeia standard.
 - ! Prohibited flavouring agents include coumarin, tonka bean, safrole, saffron oil, dihydrosafrole, isosafrole, agaric acid, nitrobenzene, dulcamara, pennyroyal oil, oil of tansy, rue oil, birch tar oil, cade oil, volatile bitter almond oil containing hydrocyanic acid and male fern.
- Flavour enhancers: Only ethyl maltol, monosodium salt of L-glutamic acid, sodium and calcium salts of guanylic and inosinic salts and L-cysteine are permitted in foods sold in Singapore, including imported products. The Regulations define product specifications and include some official limitations on usage of some of these products.
- Humectants: Glycerine is banned from use in foods, including imported products, unless permitted by the authorities.

- Sequestrants: Citric acid, phosphoric acid, tartaric acid and the calcium salts of these acids as well as glycine are permitted for use in foods. The use of Calcium Disodium Ethylenediaminetetraacetate is restricted to canned fish, mayonnaise, salad dressing, French dressing and margarine and subject to official limits in the Food Regulations.

Only carbon dioxide, nitrogen and helium are allowed to be used as gaseous packaging agents under the provisions of the Food Regulations.

It should be noted that the content of these Schedules will change with time because the authorities periodically update them to take account of new products, new risks and new scientific findings on food additives. It is therefore recommended that U.S. exporters and their importers review the content of the most up-to-date schedules in liaison (as necessary) with the relevant authorities to ensure that their products fully comply with the Food Regulations.

VI. Pesticide and Other Contaminants

The Food Regulations include a number of regulations that are specific to the incidental constituents of food and drinks.

The specific regulations on the content of pesticides and other contaminants in food and drinks are to be read and interpreted with reference to the following detailed schedules to the Food Regulations:

- Tenth Schedule, which defines the maximum amount of pesticide content that specific types of food and drinks may contain. Currently, this covers 113 different pesticides and their permitted residues in several hundred processed food, drink and agri-foods.
- Eleventh Schedule, which defines the maximum amount of arsenic, lead and copper that are permitted in a range of products. Currently, this covers 36 different types of processed food, drink and agri-foods.

It should be noted that the content of these Schedules will change with time because the authorities periodically update them to take account of new products, new risks and new scientific findings on pesticides and other contaminants in foods. It is therefore recommended that U.S. exporters and their importers review the content of the most up-to-date schedules in liaison (as necessary) with the relevant authorities to ensure that their products fully comply with the Food Regulations.

Content Standards for Antibiotics, Oestrogen and Toxins

Foods, drinks or agrifood product, including imported products, containing detectable antibiotic residues or their degradations products are not permitted to be sold or traded in Singapore. Nisin may, however, be employed in the preservation of cheese and canned foods that have been sufficiently heat treated to destroy *Clostridium botulinum* spores.

Meat and meat products that contain residues of the following oestrogen compounds are not permitted to be imported, sold or traded in Singapore:

- Diethylstilbestrol (3, 4-bis(p-hydroxyphenyl)-3-hexene).
- Hexoestrol (3, 4-bis(p-hydroxyphenyl)-n-hexane).
- Dienoestrol (3, 4-bis(p-hydroxyphenyl)-2, 4-hexadiene).

Food, drinks and agrifood products sold in Singapore, including imported products, are not permitted to contain any detectable amounts of aflatoxins or any other mycotoxins.

Mineral Hydrocarbon Usage and Content

The Food Regulations include comprehensive regulations of mineral hydrocarbon usage and content in foods.

The overriding rule is that mineral hydrocarbons are not to be used in the preparation of foods sold in Singapore, including imported products. Some exceptions to this rule, inclusive of related limits on the content of mineral hydrocarbons, based on measurements in terms of parts per hundred or ppm (parts per million), do exist for the following products:

- Dried fruits.
- Citrus fruits.
- Sugar confectionery contain mineral hydrocarbons as a polishing or glazing agent.
- Foods which contain the above products.
- Chewing compounds that contain solid mineral hydrocarbons.
- Whole pressed cheese or portions that contain mineral hydrocarbons on their rind.
- Eggs, i.e. chicken or duck, that have been dipped in mineral hydrocarbons as a preservative.
- Other foods that may have been necessarily exposed to mineral hydrocarbons during the course of their preparation.
- Foods that contain residues of mineral hydrocarbons as a result of the use of a solvent in their manufacturing process, e.g. decaffeinated coffee products, spice oleoresins, edible vegetable oil.

It should be noted that the shells of eggs that have been coated with mineral hydrocarbons are required to be marked with the word “SEALED”.

U.S. exporters and their importers that deal in products which may contain mineral hydrocarbons should make specific reference to Regulation 36 titled “Mineral Hydrocarbons” (with necessary reference to the Food Control Department) to ensure that the products being exported to Singapore fully comply with the law on content and usage of these products.

VII. Other Regulations and Requirements

Expiry date marking

The Table below provides a list of the products which are required to be labelled with an expiry date. This list is officially set out in the Third Schedule to the Food Regulations (see Appendix F to this report).

Some key points to note are as follows:

- The Food Control Department defines the expiry date of a food product as “the date after which the food, when kept in accordance with any storage conditions indicated on the label of that food, may not retain its normal nature and quality”.
- The expiry date appearing on a product’s label should be qualified by using words such as “USE BY”, “SELL BY”, “EXPIRY BY”, “BEST BEFORE” or words of similar meaning.
- Where the expiry date is dependent upon a particular method of storage, e.g. perishable products such as liquid milk, directions for storage must also be stated on the label or package. The following example is cited by the Food Control Department:

“BEST BEFORE: 31 Oct 99. Store in a cool dry place.”

- The expiry date for short shelf life products must include the day and the month. The year in the expiry date mark of such products is optional. Short shelf products include pasteurised cream, milk and yoghurt, juices, soybean products and other products that require chilling to maintain or prolong its durable life.
- The expiry date of the other foods covered by this regulation must include the month and the year. The day in the expiry date mark of such products is optional. These products include vitaminised fruit and vegetable juices and juice drinks, liquid milk (UHT and sterilised forms but not canned condensed products), flour, salad dressings, mayonnaise, raisins and sultanas, chocolate products, breakfast cereals (except in cans), infants’ food and edible oils.
- The expiry date is required to be clearly displayed on the package in letters not less than 3 millimetres in height.

Requirements on import of bottled natural mineral water, spring and drinking water

The Food Regulations contain detailed regulations which include provisions covering official product definitions and content, advertising and labelling. Water cannot be advertised, labelled or sold as natural mineral water unless documentary evidence is provided to the Food Control Department (“FCD”) which verifies the place of origin and that the product is genuine. The laws are strictly enforced.

The FCD requires that importers applying to import bottled natural mineral water, spring and drinking water into Singapore are required to submit the original copy of a certificate issued by the government controlling authority in the product’s country of origin. This certificate should:

- Certify that the natural mineral water, drinking or spring water is genuine.
- Include details of the product’s brand name, importer’s particulars and the source from where the water was obtained.

A copy of the site plan showing the water source is also required to be provided with this certificate.

This certificate is required to be submitted to the FCD once and before commencement of import of the product.

In addition to the above requirement, every batch of bottled water that is imported into Singapore is required to be accompanied by a Health Certificate issued by the government controlling authority in the product's country of origin. This certificate is required to be submitted to the FCD prior to or on arrival of each consignment.

Importation of irradiated food

The import or sale of food that has been exposed to ionizing radiation is prohibited except under a licence specifically issued by the Food Control Department for each consignment of irradiated food.

This law also covers irradiated food ingredients.

Every consignment of irradiated food imported to Singapore is required to be certified that:

- The irradiation treatment has been conducted in accordance with the CODEX Recommended International Code of Practice for the Operation of Radiation Facilities Used for the Treatment of Foods; and
- The irradiated food meets the CODEX General Standards for Irradiated Foods.

Irradiated foods, foods containing irradiated ingredients and irradiated food ingredients are required to clearly disclose on their label that they have been irradiated or contain irradiated products.

Import, sale and use of artificial sweeteners

A valid licence issued by the Food Control Department is required for:

- The sale, import, usage, advertising, manufacture, consignment or delivery of permitted artificial sweetening agents; and
- The import and sale of food and drinks containing permitted artificial sweetening agents.

Currently, the licence is issued on an annual basis, subject to review before renewal and payment of a licence fee. The period of the licence can be varied by the Food Control Department.

Artificial sweetening agents are chemical compounds used for the purpose of sweetening food and drinks. The products that are permitted for sale and use in Singapore are:

- Saccharin.
- Acesulfame-k (Potassium Salt of Acesulfame)

- Sucralose.

Artificial sweetening agents do not include aspartame, any sugar or other carbohydrate or polyhydric alcohols. According to the Food Control Department, polyhydric alcohols include products such as sorbitol, mannitol, isomalt, maltitol, lactitol and xylitol.

Approval of an artificial sweetening agent licence can be obtained if the following conditions are found to be fully satisfied by the Food Control Department:

1. The reason for the use of artificial sweetening agent(s) in food and drink products must be technological justified, e.g. the products are special purpose foods such as low-calorie food or sugar-free food for diabetics.
2. The food containing the artificial sweetening agent(s) must fully comply with the standards as laid down in the Food Regulations.
3. All food containing artificial sweetening agent(s) must be properly labelled. As mentioned in an earlier section of this report, food containing artificial sweetening agents are required to disclose usage and the nature of the product on its label.

VIII. Other Specific Standards

Microbiological standards for food

Under the Food Regulations, no food or drink product ready for human consumption can be contaminated with:

- Escherichia coli exceeding 20 per gm or per ml, in the case of liquid products; or
- With any pathogenic micro-organism.

The specific regulations on microbiological standards for foods are to be read and interpreted with reference to Schedule 12 of Food Regulations (see Appendix G to this report).

In addition to the standards in this Schedule, the Food Regulations also set limits on the mould count for tomato products. Specifically, the mould count in tomato juice and other comminuted tomato products, i.e. ketchup, puree and paste, shall be no more than 20% and 40% of positive fields respectively. The percentage of microscopic fields is to be examined in accordance with the method laid down by the Association of Official Agricultural Chemists, USA.

Advertising standards

Advertising of food is covered by the provisions of the Food Regulations that cover labelling and information that is provided to consumers and users. Specifically, the regulations that misleading statements and certain types of claims must not be included on labels also apply to advertisements for food and drinks.

Foods requiring special declaration to, and attention, by the controlling authorities

The following range of foods require special declaration to, and attention, by the controlling authorities. In the case of processed foods, the Food Control Department, and for edible agricultural and fisheries products, the Agri-Food & Veterinary Authority ("AVA"):

- Soy sauce.
- Oyster sauce.
- Beancurd sheets/sticks.
- Flour/starch.
- Nuts.
- Corn.
- Irradiated food (covered elsewhere in this report).
- Mineral water (covered elsewhere in this report).
- Whisky.
- Brandy.
- Preserved fruits.
- Preserved vegetables.
- Agar agar.
- Eastern European foodstuffs.
- Genetically modified food (covered below).

The importer of these controlled items is required to contact the respective authorities by phone or by faxing the import permit to them for inspection and sampling.

Genetically modified foods

The Genetic Modification Advisory Committee (GMAC) was established in Singapore in April 1999 to ensure public safety, while allowing for the commercial use of GMOs and GMO-derived products by companies and research institutions in Singapore.

As mentioned in the previous section, genetically modified foods are controlled items in Singapore. They are subject to special declaration, review, inspection and testing procedures which are being implemented by the Food Control Department and Agri-Food & Veterinary Authority ("AVA").

Regulation and enforcement of the regulations, policies, procedures and practices covering GMOs is performed with reference to the Singapore Guidelines on the Release of Agriculture-Related Genetically Modified Organisms (Issued 20 August 1999). A copy of these guidelines is included in Appendix H to this report.

U.S. exporters and their importers in Singapore can refer to the Food Control Department and Agri-Food & Veterinary Authority ("AVA") for detailed information about the procedures and regulations that affect their GMO food, drink and agrifood products, including those that include GMO ingredients.

IX. Trademark Laws in Singapore

The basic trade mark laws are laid down in the Trade Marks Act (Cap. 332, 1999 Edition), as amended, which is enforced by reference to The Trade Marks Rules 1998, as amended. The main government agency to contact for trademarks is the Intellectual Property Office of Singapore, Ministry of Law.

Any person or corporation, whether local or foreign, who claims to be the proprietor of a trade mark used or proposed to be used by him in Singapore, may file an application for the registration of the trade mark.

Under this law, trade marks broadly include any letter, word, name, signature, numeral, device, brand, heading, label, ticket, shape, colour, aspect of packaging or any combination thereof which are used to distinguishing goods or services of one person/corporation from those of another person/corporation. The Intellectual Property Office of Singapore comments that:

- An example of a famous trade mark is Coca-Cola.
- Sound and smell marks are excluded from the definition of a trade mark.

The law provides for priority claims to trademarks by any person or corporations that has registered or has applied to register any trade mark in any of the member countries of the Paris Convention or The World Trade Organisation or a country or territory where a special order has been included in Singapore law.

In the above case, such a person/corporation is entitled to register his trade mark in Singapore in priority to other applicants, and the registration of his trade mark shall have the same date as the date of application in that country. It should be noted that there are special requirements to be complied with when filing a priority claim. U.S. manufacturers, exporters and their agents should refer to the Trade Mark Act and Rules and/or the Intellectual Property Office of Singapore on this matter if they wish to make a priority claim for registration of their trademark.

The effect of trade mark registration in Singapore does not extend beyond the territorial boundary of Singapore.

It is not compulsory to register a trade mark in Singapore. The Intellectual Property Office of Singapore comments that:

- Where a trade mark remains unregistered, the owner must rely on the common law action in cases where other persons/corporations use his trade mark without permission. Such legal action can involve long and costly litigation.
- Registration of a trade mark provides its owner with a statutory monopoly over the trade mark. As a result, he can sue for infringement of his registered trade mark if someone else uses the same or similar mark on the same or similar goods and/or services in respect of which the mark is registered.

X. Import Procedures

Overview

Taxes and duties levied on import of these products is dealt with in Section I of this report titled Food Laws. This section covers:

- The import of processed food and drinks which are controlled by the Food Control Department.
- The import of meat and meat products, fish and fish products, fresh fruits and fresh vegetables which are controlled by the Agri-Food and Veterinary Authority.

Import of Processed Food and Drinks

The Food Control Department (FCD) is responsible for the control of food safety, licensing and inspection of food factories in Singapore and for control of imports. FCD advise that:

- Importers of processed food and drinks to Singapore are required to be registered with the FCD.
- All newly imported products have to be registered by the importer with the FCD.
- The FCD's registration covers one year for each product being imported.
- Registration can be undertaken by sending or faxing the FCD a copy of the inward declaration that has been approved by the Singapore Trade Development Board ("TDB").
- The TDB operates an electronic trade documentation systems known as TradeNet to facilitate import/export documentation. To declare products using TradeNet, local importers are required to obtain a Central Registration Number from the TDB.
- FCD has the power to inspect and test all products to be imported to Singapore.
- FCD closely monitors a number of products that are referred to as controlled items (considered in an earlier section of this report).

Import of Meat, Fish and Their Products and Fresh Fruits and Vegetables

1. The Agri-Food & Veterinary Authority and its goals

Agri-Food & Veterinary Authority ("AVA") is Singapore's national authority responsible for ensuring the safety of primary foods and protecting the health of people, animals, fish and plants through advanced technology in agriculture, fisheries, veterinary science and the life sciences. It strives to:

- Facilitate the supply of stable, safe and wholesome meat and meat products, fish and fish products, fresh fruits and vegetables;
- Safeguard the health of animals, fish and plants;
- Be a centre of excellence for tropical agrotechnology services; and
- Facilitate trade in primary produce.

It should be noted that traders who import, export or tranship meat products and fish products; and import or tranship fresh fruits and vegetables are required to be licensed by the Agri-food & Veterinary Authority. Any person who is registered under the Business Registration Act or company incorporated under the Companies Act is eligible to apply.

The information in the following sections has been taken from the AVA guidance notes on the import of products that fall under its area of jurisdiction.

2. Overview of AVA regulations

2.1 Meat products

2.1.1 Definition

Meat products includes the whole carcase or the parts of any animal or bird. Meat products may be imported in chilled, frozen, processed or canned forms.

2.1.2 Import permit

Meat products may only be imported into Singapore from approved sources. An up-to-date list of countries approved to export frozen meat to Singapore can be obtained from the AVA.

An import permit issued by the AVA is required for every consignment of meat products imported. Traders may apply for the import permit by declaring the import through the Tradenet system. The system will route the application to Import Control Section (Meat), AVA for processing. Upon approval, the import permit for the consignment is incorporated in the Cargo Clearance Permit printed at the trader's terminal.

2.1.3 Documents required

Every consignment of meat products imported shall be accompanied by a veterinary health certificate (original) certifying that Singapore's health requirements have been complied with. Other supporting documents like bills of lading, airway bills and invoices should also be submitted or faxed via Fax No 325 7648. The Unique Reference No. of the trade declaration should be stated on the top right hand corner of the documents.

2.1.4 Inspection

Every consignment of meat products imported shall be inspected by the AVA before sale is permitted. Traders are required to contact the Food Inspection Services Branch at Tel 267 0692 to arrange for the inspection. Samples may be taken for laboratory analysis.

2.1.5 Others

Meat products imported into Singapore must be shipped direct. All imports are subject to compliance with prevailing regulations laid down by the AVA. Veterinary requirements governing importation and the lists of establishments approved to export meat to Singapore are available on request.

Meat products may be exported from Singapore or transhipped at Singapore in reefer containers within the Free Trade Zone. An export or transhipment permit is required and the procedures to apply for the permit are similar to those for import.

2.2 Fish products

2.2.1 Definition

Fish products refer to any of the varieties of marine, brackish water or fresh water fishes, crustacea, aquatic mollusca, turtles, marine sponges, trepang and any other form of aquatic life and their young and eggs. Fish products here does not include the ornamental varieties.

Fish products may be in chilled, frozen, processed or canned forms.

2.2.2 Import

Fish products which are wholesome and fit for human consumption may be imported from any country.

Countries which export molluscan shellfish to Singapore will have to meet the basic requirements of shellfish sanitation programme. Live oysters may only be imported from approved sources. The countries approved for such exports are Australia, Canada, France, Ireland, The Netherlands, New Zealand, United Kingdom and USA. The import of chilled shucked raw oyster, chilled cockle meat, chilled cooked prawn/shrimp and chilled crab meat is prohibited.

An import permit issued by the AVA is required for every consignment of fish products imported.

Traders may apply for the permit by declaring the import through the Tradenet system. The system will route the declaration to Import Control Section (Fish), AVA for processing. Upon approval, the import permit for the consignment is incorporated in the Cargo Clearance Permit printed at the trader's terminal.

2.2.3 Documents required

Traders importing fish products should submit or fax (Fax No 325 7650) supporting documents such as invoices, bill of lading or airway bills for processing. The Unique Reference No. of the declaration should be stated on the top right hand corner of the documents.

For high risk items like live/frozen oysters, frozen blood cockle meat, frozen cooked prawns and frozen cooked crab meat, a health certificate (original) issued by the relevant government authorities is required.

2.2.4 Inspection

Imported fish products are subject to inspection. Samples may be taken for laboratory analysis. In the

case of frozen oysters, frozen blood cockle meat, frozen cooked prawns and frozen cooked crab meat every consignment imported must be inspected by the AVA before sale is permitted. Traders are required to contact the Food Inspection Service Branch at Tel No. 3257654 or 2670692 to arrange for the inspection.

2.2.5 Others

All imports of fish products shall comply with prevailing regulations laid down by the AVA. Health requirements governing the importation of the above-mentioned high risk items are available on request.

Fish products may be transhipped at or exported from Singapore. The procedures to apply for such approvals are similar to those for import.

2.3 Fresh fruits and vegetables

2.3.1 Definition

Fresh fruits and vegetables refer to unprocessed and raw fruits and vegetables without roots which are intended for human consumption. The import, export or transshipment of processed fruits and vegetables are not under the jurisdiction of AVA.

2.3.2 Import

Fresh fruits and vegetables which are fit for human consumption may be imported from any country.

An import permit issued by the AVA is required for every consignment of fruits and vegetables imported. Traders may apply for the permit by declaring the import through the Tradenet system. The system will route the declaration to Import Control Section (Fruits & Vegetables), AVA for processing. Upon approval, the import permit for the consignment is incorporated in the Cargo Clearance Permit printed at the trader's terminal.

2.3.3 Inspection

All imported fresh fruits and vegetables are subject to inspection. Samples may be taken for laboratory analysis.

2.3.4 Others

All imports of fresh fruits and vegetables shall comply with prevailing regulations laid down by AVA. The products imported shall not contain pesticide residues or toxic chemical residues exceeding that prescribed under rule 9 of The Control of Plants (Import & Transshipment of Fresh Fruits and Vegetables) Rules.

The following information shall be stated on the containers of the fresh fruits and vegetables at the time of import:

- Name and address of the producer of the products;
- Product description; and
- Date of export/packing.

Fresh fruits and vegetables may be transhipped through Singapore. The procedures to apply for such approval are similar to those for import.

Appendix I - Government Regulatory Agency Contacts

Food Control Department
Ministry of Environment,
Environment Building, #19-00
40 Scotts Road
Singapore 228231

Tel: (+65) 731 9872

Fax: (+65) 731 9843

Website: www.env.gov.sg

Activity: Regulatory body covering processed food and drinks. Also provides consultation services to food manufacturers, importers and advertisers on Singapore's requirements for food labelling and advertisements.

Agri-Food and Veterinary Authority
Import Control Section
5 Maxwell Road, #03-00
Tower Block, MND Complex
Singapore 069110

Tel: (+65) 222 1211

Fax: (+65) 220 6068

Website address: www.ava.gov.sg

Activity: Regulatory body covering meat, poultry, fish, seafood, fruits and vegetables.

Trade Development Board
Singapore Government
230 Victoria Street, #07-00
Bugis Junction Office Tower,
Singapore 188024

Tel: (+65) 337 6628

Fax: (+65) 337 6898

Website address: www.tdb.gov.sg

Activities: Controls import trade documentation system.

Customs & Excise Department
Singapore Government
55 Newton Road,
#02-01 Podium Block, Revenue House,
Singapore 307987

Tel: (+65) 355 2000

Fax: (+65) 250 9606

Website address: www.gov.sg/customs

E-mail: CED_Documentation@ced.gov.sg

Activities: Collects tariffs and excise duty on relevant imports. Includes the Liquor Licensing Board.

Intellectual Property Office of Singapore

Ministry of Law

51 Bras Basah Road, #04-01,

Plaza by the Park,

Singapore 189554

Tel: (+65) 330 2700

Fax: (+65) 339 0252

Website address: www.gov.sg/minlaw/ipos

E-mail: mLaw_ipos_enquiry@mLaw.gov.sg

Activities: Oversees registration of trade marks. (Note also deals with patents)

Appendix II - Other Contacts

U.S. Office of Agricultural Affairs

American Embassy Singapore

541 Orchard Road, #15-03,

Liat Towers,

Singapore 238881

Tel: (+65) 737 1233

Fax: (+65) 732 8307

E-mail: ato_sing@pacific.net.sg

Website address: www.atosingapore.org.sg

Myepb Bookstore

3 Temasek Boulevard, #B1-025,

Suntec City Mall

Singapore 038983

Tel: (+65) 333 9703

Fax: (+65) 333 9236

E-commerce website: www.myepb.com (For orders)

Activity: Official retailer for government legislation, including the Sale of Food Act (Chapter 283) and its amendments.

Appendix C - Health Claims and Diseases

List of Diseases and Conditions
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5. Blindness.
6. Cancer.
7. Cataract.
8. Conception and pregnancy.
9. Dangerous drug addition.
10. Deafness.
11. Diabetes.
12. Epilepsy or fits.
13. Frigidity.
14. Hypertension.
15. Infertility.
16. Insanity.
17. Impotence.
18. Kidney disease.
19. Leprosy.
20. Menstrual disorders.
17. Paralysis.
18. Sexual function.
19. Tuberculosis.

Source: Ministry of Health, Singapore - Medicine (Advertisement & Sale) Act

Appendix D - Table I to the Food Regulations - Claims on Vitamins and Minerals

Daily Allowances for Vitamins and Minerals in Foods		
Substances	To be calculated as:	Daily allowance
Vitamin A, vitamin A alcohol and esters, carotene	Micrograms of retinol activity	750 mcg
Vitamin B1, aneurine, thiamine, thiamine hydrochloride, thiamine mononitrate	Milligrams of thiamine	1 mg
Vitamin B2, riboflavin	Milligrams of riboflavin	1.5 mg
Vitamin B6, pyridoxine, pyridoxal, pyridoxamine	Milligrams of pyridoxamine	2.0 mg

Niacine, niacinamide, nicotinic acid, nicotinamide	Milligrams of niacin	16 mg
Vitamin C, ascorbic acid	Milligrams of ascorbic acid	30 mg
Vitamin D, vitamin D2, vitamin D3	Milligrams of cholecalciferol	2.5 mcg
Calcium	Milligrams of calcium	500 mg
Iodine	Micrograms of iodine	100 mcg
Iron	Milligrams of iron	10 mg
Phosphorus	Milligrams of phosphorus	800 mg
Vitamin B12, cobalamin, cyanocobalamin	Micrograms of cyanocobalamin	2.0 mcg
Folic acid, folate	Micrograms of folic acid	200 mcg
Note: mcg: micrograms. mg: milligrams Source: Food Regulations (Table I of Regulation No. 11)		

Appendix E - Table II to the Food Regulations - Claims on Vitamins and Minerals

Reference Quantities for Foods Containing Vitamins and Minerals	
Food	Reference Quantity
Bread	240 g
Breakfast cereals	60 g
Extracts of meat or vegetables or yeast (modified or not)	10 g
Fruit and vegetable juices	200 ml
Fruit juice concentrates (diluted according to instructions on the label)	200 ml

Fruit juice cordials (diluted according to instructions on the label)	200 ml
Flavoured cordials (diluted according to instructions on the label)	200 ml
Malted milk powder	30 g
Condensed milk	180 g
Milk powder (full cream or skimmed) and food containing not less than 51% of milk powder	60 g
Other concentrated liquid food including powdered beverage not specified above (diluted according to instructions on the label)	200 ml
Liquid food not specified above	200 ml
Solid food not specified above	120 g
Note: g: grams, ml: millilitres. Source: Food Regulations (Table II of Regulation No. 11)	

Appendix F - Third Schedule to the Food Regulations - Expiry Date Marking

Date-Marking of Prepacked Foods
Cream, reduced cream, light cream, whipped cream and sour cream excluding sterilised canned cream.
Cultured milk and cultured milk drink. Pasteurised milk and pasteurised milk drink.
Yoghurt, low fat yoghurt, fat reduced yoghurt, non-fat yoghurt and yoghurt products.
Pasteurised fruit juice and pasteurised fruit juice drink.
Pasteurised vegetable juice and pasteurised vegetable juice drink.

Tofu, “tauhu” or “doufu”, a soya beancurd product made of basically soya beans, water and a coagulant, including “egg tofu”, “taukua” or “dougan” and the soft soya beancurd dessert known as “tauhui”, “tofa”, or “dohua”, but excluding the oil fried tofu in the form of a pouch known as “taupok” and the dried beancurd stick.
Food which is stored or required to be stored at a chilling temperature to maintain or prolong its durable life, but excluding raw fruits and vegetables.
Vitaminised fruit juice and vitaminised fruit juice drink.
Vitaminised vegetable juice and vitaminised vegetable juice drink.
Liquid milk and liquid milk products excluding condensed milk, sweetened condensed milk, evaporated milk and canned sterilised milk and milk products.
Flour.
Salad dressing.
Mayonnaise
Raisins and sultanas.
Chocolate, milk chocolate and chocolate confectionery in which the characteristic ingredient is chocolate or cocoa, with or without the addition of fruits and nuts.
Breakfast cereal with or without fruit and nuts except cereal in cans.
Infants’ food.
Edible cooking oils.
Source: Food Regulations (Third Schedule, as amended)

Appendix G - Schedule 12 to the Food Regulations - Microbiological Standards for Food

Microbiological Standards for Food		
Type of Food	Total Count at 37°C for 48 Hours	Coliform Count
Milk powder (including full cream, half cream, skimmed milk and infant formula).	Not more than 100,000 per gram	Not more than 50 per gram
Buttermilk powder	Not more than 200,000 per gram	Not more than 50 per gram
Pasteurised milk	Not more than 100,000 per millilitre	Not more than 50 per millilitre

Ice cream	Not more than 50,000 per gram	Not more than 10 per gram
Cooked crab meat, prawns and shrimps	Not more than 500,000 per gram	
Molluscs, ready for consumption	Not more than 500,000 per gram	
Edible gelatin	Not more than 100,000 per gram	
Fish, ready for consumption	Not more than 100,000 per gram	
Pastry	Not more than 100,000 per gram	
Meat, ready for consumption	Not more than 1 x 1 million per gram	
Any solid food ready for consumption not specified above.	Not more than 100,000 per gram	
Any liquid food ready for consumption not specified above.	Not more than 100,000 per millilitre	
Source: Food Regulations, Twelfth Schedule		

Appendix H - Singapore Guidelines on the Release of Agriculture-Related Genetically Modified Organisms (Issued 20 August 1999)

A. Important Note for Readers

This document has been released by Singapore's Genetic Modification Advisory Committee (GMAC) under copyright. It is reproduced here in its entirety (with some minor modifications referring to various appendices that have been produced by GMAC) for the information of U.S. exporters.

B. Introduction by Genetic Modification Advisory Committee (GMAC)

Recombinant DNA technology has progressed globally to the level, where there is a healthy pipeline of genetically modified organisms (GMOs) and GMO-derived products, that have been commercialised, or are in the process of commercialisation.

The Genetic Modification Advisory Committee (GMAC) was established in Singapore in April 1999 to ensure public safety, while allowing for the commercial use of GMOs and GMO-derived products by companies and research institutions in Singapore. Four sub-committees were formed by GMAC to deal with the wide range of issues related to GMOs which include:

- Biosafety Guidelines for Agriculture-Related GMOs.
- Biosafety Guidelines for Research on GMOs.
- Labelling of GMO or GMO-derived products.
- Public awareness programme on GMOs.

The Sub-Committee on Biosafety Guidelines for Agricultural Products, chaired by the Primary Production Department (now Agri-Food & Veterinary Authority or AVA) and comprising representatives from Ministry of the Environment (ENV), Ministry of Health (MOH), Trade Development Board (TDB), National Parks Board (Nparks) and Institute of Molecular Agrobiology (IMA) has completed the Singapore Guidelines on the Release of Agriculture-Related GMOs. These Guidelines have been approved by GMAC.

The Guidelines cover genetically modified animals, plants, fish, insects, microorganisms and vaccines used in cultivation and farming, as well as primary food such as meat, eggs, fish, vegetables and fruits.

The objective of the Guidelines is to ensure the safe import, release and use of agriculture-related GMOs in Singapore. The Guidelines provide a common framework for:

1. the assessment of risks for agriculture-related GMOs to human health and the environment; and
2. the approval mechanisms for the release of agriculture-related GMOs in Singapore.

In addition, the Guidelines address issues related to food safety based on the concept of substantial equivalence. Substantial equivalence embodies the concept that if a new food or food component is found to be substantially equivalent to an existing food or food component, it can be treated in the same manner with respect to safety (i.e. the food or food component can be concluded to be as safe as the conventional food or food component.). Tools for risk assessment have also been included in the Guidelines.

A science-based approach was used in the drafting of the Guidelines. The Sub-Committee also considered the Guidelines of other developed countries such as Australia, Canada and the US in the drafting process.

Applications for the release and use of GMOs and GMO-derived products will be submitted to GMAC which will refer them to the Sub-Committee for consideration. The Sub-Committee will evaluate the application in accordance to the Guidelines to ensure the safety to human health and the environment.

The Sub-Committee will then make recommendations to GMAC to endorse the approval for the release of the relevant agriculture-related GMOs if it is found to be safe. It will also monitor the control of the release and use of these products through the relevant regulatory agencies.

The relevant agencies i.e. PPD (now AVA), ENV, MOH and NParks have been designated to implement the Guidelines using their existing legislations. These agencies will adhere to the Guidelines when they approve the release and use of agriculture related GMOs and GMO-derived products.

GMAC is satisfied that the stringent scrutiny on GMOs specified in the Guidelines will ensure that any GMO approved for release in Singapore is safe to human health and the environment.

Issued by GMAC. For more information please contact:

Dr Yvonne Chow
GMAC Secretariat
Tel : 7705858
Email : Yvonne_Chow@nstb.gov.sg

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3. Singapore Guidelines on the Release of Agriculture-related Genetically Modified Organisms (GMOs)

OBJECTIVES OF GUIDELINES

- 1.1 These Guidelines are established to ensure the safe movement and use in Singapore of agriculture-related GMOs.
- 1.2 These Guidelines provide a common framework for:
 - (a) assessment of risks of agriculture-related GMOs to human health and the environment; and
 - (b) approval mechanisms for their release in Singapore.
- 1.3 These Guidelines address issues related to food safety based on the concept of substantial equivalence.

2. SCOPE OF GUIDELINES

Covers release of agriculture-related organisms with genetic material that has been altered in a way that is unlikely to occur naturally by mating or natural recombination.

3. DEFINITIONS

- 3.1 For purposes of these Guidelines, the following terms shall be defined as follows:
 - "Agriculture-related organisms" refers to animals (including fish and invertebrates), plants, microorganisms and vaccines used in cultivation, farming, agronomy, husbandry and horticulture or as food.

- "GMAC" refers to the Genetic Modification Advisory Committee of Singapore.
- "Proponent" refers to any person, firm, company, institution or organisation planning to release agriculture-related GMOs into Singapore.
- "Release" means the deliberate introduction of agriculture-related GMOs into the open environment for field trials or commercial use in Singapore.
- "Risk" is defined as the magnitude and likelihood of adverse effect.
- "Substantial equivalence" embodies the concept that if a new food or food component is found to be substantially equivalent to an existing food or food component, it can be treated in the same manner with respect to safety (i.e. the food or food component can be concluded to be as safe as the conventional food or food component).

4. THE GENETIC MODIFICATION ADVISORY COMMITTEE (GMAC)

4.1 The Committee shall consist of representatives from national agencies:

- Attorney General's Chambers (AG Chambers).
- Economic Development Board (EDB).
- Institute of Molecular Agrobiology (IMA).
- Institute of Molecular and Cell Biology (IMCB).
- Ministry of the Environment (ENV).
- Ministry of Health (MOH).
- National Parks Board (NParks).
- National Science and Technology Board (NSTB).
- National University of Singapore (NUS).
- Primary Production Department (PPD) [Note: now Agri-Food & Veterinary Authority ("AVA")].
- Singapore General Hospital (SGH).
- Trade Development Board (TDB).

4.2 The Terms of Reference of GMAC are as follows:

- To advise and recommend for approval, or otherwise, the research and development, production, use and handling of GMOs.
- To monitor the control of release of GMOs into the environment.

- To review proposals related to the release of GMOs into the environment. GMAC may establish sub-committees of experts in specific areas to assess the risks involved.
- To provide advice on matters related to the release of GMOs.
- To inform the public, where deemed necessary, on planned release of GMOs.
- To establish mechanisms for exchange of information with overseas agencies and to facilitate the harmonisation of guidelines with regional and international authorities.
- To develop and approve biosafety guidelines for the research and development, production, use and handling of GMOs.

5. PROCEDURES FOR NOTIFICATION

5.1 All agriculture-related GMOs brought into Singapore by the Proponent for release should comply with existing national and international regulations.

5.2 Before the release of any agriculture-related GMOs in Singapore, the Proponent is required to submit a proposal to the GMAC. The Proponent should consult GMAC to determine the appropriate approval process for the agriculture-related GMOs and the specific information necessary for an assessment.

5.3 The correspondence address of the GMAC Secretariat is as follows:

National Science and Technology Board
10 Science Park Road
01-01/03 The Alpha
Singapore Science Park II
Singapore 117684
Tel: (65) 770 5885
Fax: (65) 777 1711

5.4 The proposal should consist of information specified in Section 8.

6. PROCEDURES FOR APPROVAL

6.1 The GMAC will forward the proposal to the Sub-Committee. The Sub-Committee may either endorse/reject the proposal or appoint the relevant agency or an expert panel to evaluate the proposal within 90 days. The panel of experts will review and assess the risks associated with each stage of the release using the questionnaire and risk assessment criteria available in a separate documents from GMAC (refer their Appendix 1 and 2 to this document). The agency/expert panel will submit their recommendations to the Sub-Committee within 90 days.

6.2 No Proponent or any agent representing the Proponent may review his own proposal.

6.3 The GMAC will decide on the recommendations of the Sub-Committee within 60 days. The GMAC can request further information/clarification from the Proponent should the need arise.

6.4 The GMAC will decide on the release on a case-by-case basis. The GMAC will either:

- i) endorse the release of the agriculture-related GMOs,
- ii) endorse the release of the agriculture-related GMOs under specified conditions,
- iii) require the Proponent to submit additional information which the GMAC deems necessary to complete the assessment, followed by decision (i) or (ii).

7. REGISTRATION OF APPROVED AGRICULTURE-RELATED GMOs

7.1 A register of approved agriculture-related GMOs in Singapore will be set up and updated by the GMAC Secretariat. Once the GMOs under consideration have been granted approval for release, the GMOs shall be registered with the GMAC Secretariat.

7.2 The evaluation, approval and registration in Singapore is summarised in the Flow Chart which is available in a separate document from GMAC (refer their Appendix 3).

8. INFORMATION REQUIRED IN PROPOSAL

8.1 The Proposal should include, on the cover page, the title of the project, the address of the institution/organisation/registered company, name and telephone number of a contact person.

8.2 The Proponent is required to disclose the necessary information for risk assessment and safety as specified a separate document from GMAC (refer their Appendix 1). All Core Questions under Section A of GMAC's Appendix 1 must be answered in detail, with relevant supporting documents included (e.g. data of field trials or laboratory tests). In addition, information on the specific agriculture-related GMOs should be given based on the classification of the GMO under Sections B-K of GMAC's questionnaire.

8.3 The broad classifications of information that are required include:

Section A : Core Questions

- Species of organisms
- Eventual use of GMO
- Location for release
- Habitat and ecology
- Genetics of the GMO
- Data from contained work and other studies
- Experimental procedures, monitoring and contingency planning
- Other assessments

Section B: Plants

Section C: Microorganisms living in or on animals

Section D: Microorganisms as vaccines

Section E: Microorganisms not falling into Sections C or D

Section F: Animals (vertebrates, not including fish)

Section G: Fish and aquatic organisms such as crustaceans

Section H: Invertebrates

Section I: Organisms for biological control

Section J: Organisms for bioremediation

Section K: Organisms to be consumed as food

8.4 The Risk Assessment Criteria is available from GMAC (refer their Appendix 2).

9. CONFIDENTIALITY AND INTELLECTUAL PROPERTY RIGHTS (IPR)

9.1 The Proponent shall inform the GMAC of any information in their proposal which the Proponent wishes to keep confidential. The GMAC shall take steps to preserve the confidentiality of such information.

9.2 It is the responsibility of the Proponent to obtain the necessary patents for the Proponent's agriculture-related GMOs for the protection of the Proponent's intellectual property.

10. RESPONSIBILITY OF PROPONENT

10.1 The Proponent is responsible for ensuring that GMAC's requirements are complied with in the release of agriculture-related GMOs. The Proponent shall appoint/designate a qualified project supervisor familiar with the requirements and ensure that all persons or agents involved in the release are made aware of and directed to comply with the requirements and recommendations made by the GMAC.

10.2 The Proponent is required to disclose all relevant information to the GMAC, including all previous approvals or refusals for release in other countries.

10.3 The Proponent shall proceed with the release only when the proponent has received official approval from the GMAC.

10.4 The Proponent shall continually collect information and perform post-release monitoring relating to the agriculture-related GMOs and their application(s). The Proponent shall report to the GMAC immediately if new information regarding risks to environment or human health is found. The GMAC reserves the right to recall any agriculture-related GMOs approved for release in its respective country based on its assessment of new information.

10.5 Upon completion of the field trials or the commercial release of the GMO, the proponent is required to submit a report.

11. REVIEW AND UPDATE

11.1 Due to the rapid changes in technology and the range of agriculture-related GMOs being developed, these Guidelines shall be periodically reviewed and updated as deemed necessary

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END OF REPORT